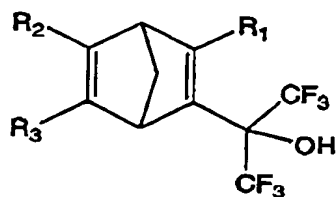


WHAT IS CLAIMED IS:

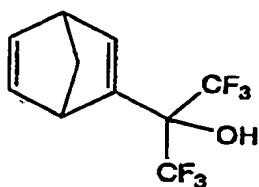
1. A fluorine-containing cyclic compound represented by the formula 1:



(1)

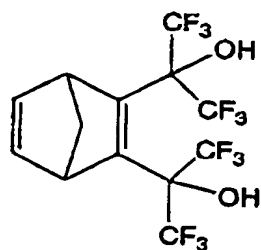
- 5 wherein each of R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> independently represents a hydrogen, alkyl group, fluorine, fluoroalkyl group or hexafluorocarbon group, wherein at least one of the hexafluorocarbon groups may partly or totally be protected with a protecting group, and wherein the protecting group is (a) a straight-chain, branched or  
10 cyclic hydrocarbon group having a carbon atom number of 1-25 or (b) an aromatic hydrocarbon group and optionally contains a fluorine atom, oxygen atom, nitrogen atom or carbonyl bond.

2. A fluorine-containing cyclic compound represented by the formula  
15 2.



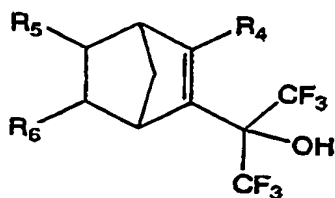
(2)

3. A fluorine-containing cyclic compound represented by the formula  
3.

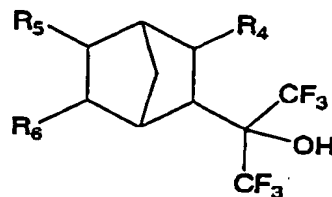


(3)

4. A fluorine-containing cyclic compound derived from the  
 fluorine-containing cyclic compound according to claim 1 and represented  
 5 by the formula 4 or 5:



(4)



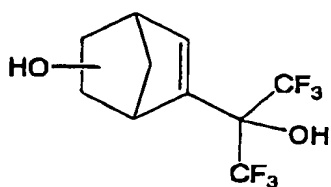
(5)

wherein at least one of  $R_4$ ,  $R_5$  and  $R_6$  represents a hydroxyl group,  
 and the remaining group of  $R_4$ ,  $R_5$  and  $R_6$  other than the hydroxyl group  
 represents a hydrogen, alkyl group, fluorine, fluoroalkyl group, or  
 10 hexafluorocarbon group,

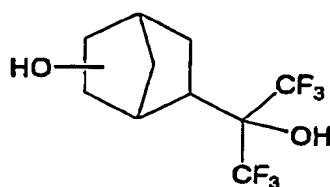
wherein at least one of the hexafluorocarbon groups of the  
 formula 4 or 5 may partly or totally be protected with a protecting group,  
 and

wherein the protecting group is (a) a straight-chain, branched or  
 15 cyclic hydrocarbon group having a carbon atom number of 1-25 or (b) an  
 aromatic hydrocarbon group and optionally contains a fluorine atom,  
 oxygen atom, nitrogen atom or carbonyl bond.

5. A fluorine-containing cyclic compound represented by the formula 6  
 20 or 7.

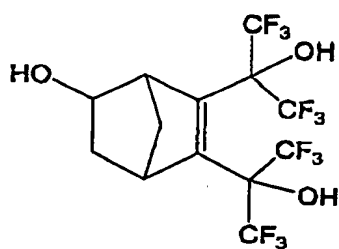


(6)

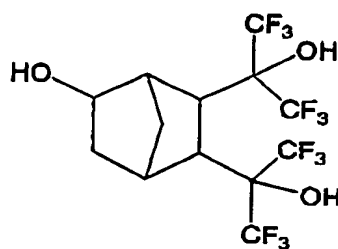


(7)

6. A fluorine-containing cyclic compound represented by the formula 8 or 9.



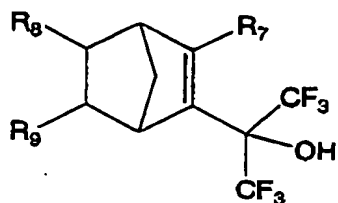
(8)



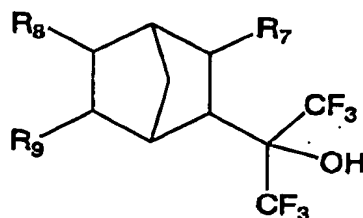
(9)

5

7. A fluorine-containing polymerizable monomer derived from the fluorine-containing cyclic compound according to claim 4 and represented by the formula 10 or 11:



(10)



(11)

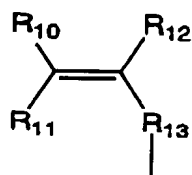
10

wherein one of  $R_7$ ,  $R_8$  and  $R_9$  in the formula 10 or 11 is a polymerizable group, and the remaining group of  $R_7$ ,  $R_8$  and  $R_9$  other than the polymerizable group represents a hydrogen, alkyl group, fluorine, fluoroalkyl group, or hexafluorocarbon group,

wherein at least one of the hexafluorocarbinol groups of the formula 10 or 11 may partly or totally be protected with a protecting group,

- 5 wherein the protecting group is (a) a straight-chain, branched or cyclic hydrocarbon group having a carbon atom number of 1-20 or (b) an aromatic hydrocarbon group and optionally contains a fluorine atom, oxygen atom, nitrogen atom or carbonyl bond, and

wherein the polymerizable group is represented by the formula 12:



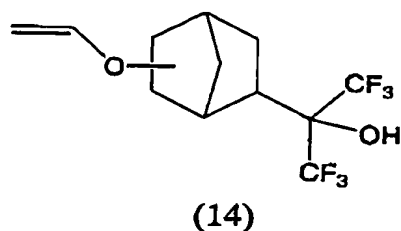
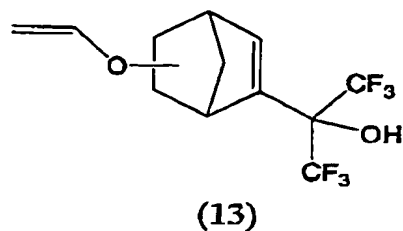
(12)

- 10 wherein each of  $\text{R}_{10}$  to  $\text{R}_{12}$  independently represents a hydrogen atom, fluorine atom, or a straight-chain, branched or cyclic alkyl or fluoroalkyl group having a carbon atom number of 1-25, and

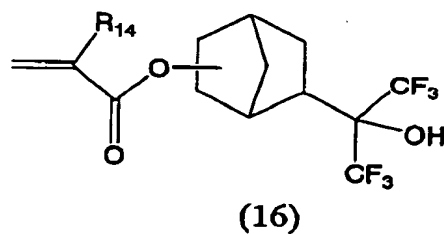
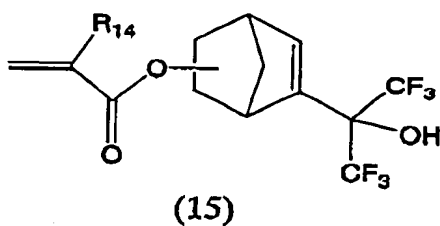
- 15 wherein  $\text{R}_{13}$  represents a single bond, a methylene group, a straight-chain, branched or cyclic fluoroalkylene group having a carbon atom number of 2-20, an oxygen atom, a sulfur atom,  $-(\text{C}=\text{O})\text{O}-$ , or a dialkylsilylene group.

8. A fluorine-containing polymerizable monomer according to claim 7, which is an acrylic ester, methacrylic ester,  $\alpha$ -trifluoromethylacrylic ester, vinyl ether, or allyl ether.

9. A fluorine-containing polymerizable monomer represented by the formula 13 or 14.



10. A fluorine-containing polymerizable monomer represented by the formula 15 or 16:

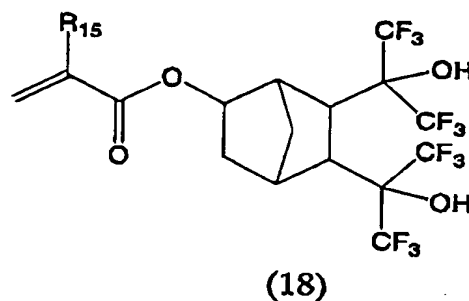
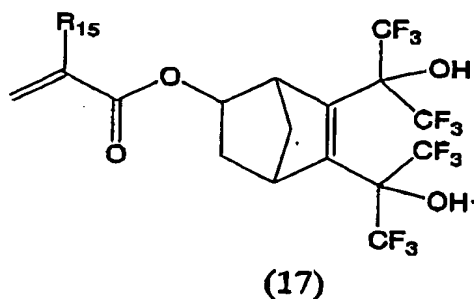


5

wherein  $R_{14}$  of the formula 15 or 16 represents a hydrogen, methyl group or trifluoromethyl group.

11. A fluorine-containing polymerizable monomer represented by the formula 17 or 18:

10



wherein  $R_{15}$  of the formula 17 or 18 represents a hydrogen, methyl group or trifluoromethyl group.

12. A fluorine-containing cyclic compound according to claim 1,  
wherein at least one of the hexafluorocarbonol groups of the formula 1 is  
partly or totally protected with an acid-labile protecting group.
- 5 13. A fluorine-containing polymer prepared by a polymerization or  
copolymerization using the fluorine-containing cyclic compound according  
to claim 1.
- 10 14. A resist composition comprising a fluorine-containing polymer  
according to claim 13.
- 15 15. A process for making a resist pattern, comprising the sequential  
steps of:
- 15 (a) applying a resist composition according to claim 14 to a  
supporting member to form a photosensitive layer on the supporting  
member;
- (b) exposing the photosensitive layer to a light through a masking  
pattern to form a first precursory layer;
- 20 (c) heating the first precursory layer into a second precursory layer;  
and
- (d) developing the second precursory layer into the resist pattern.